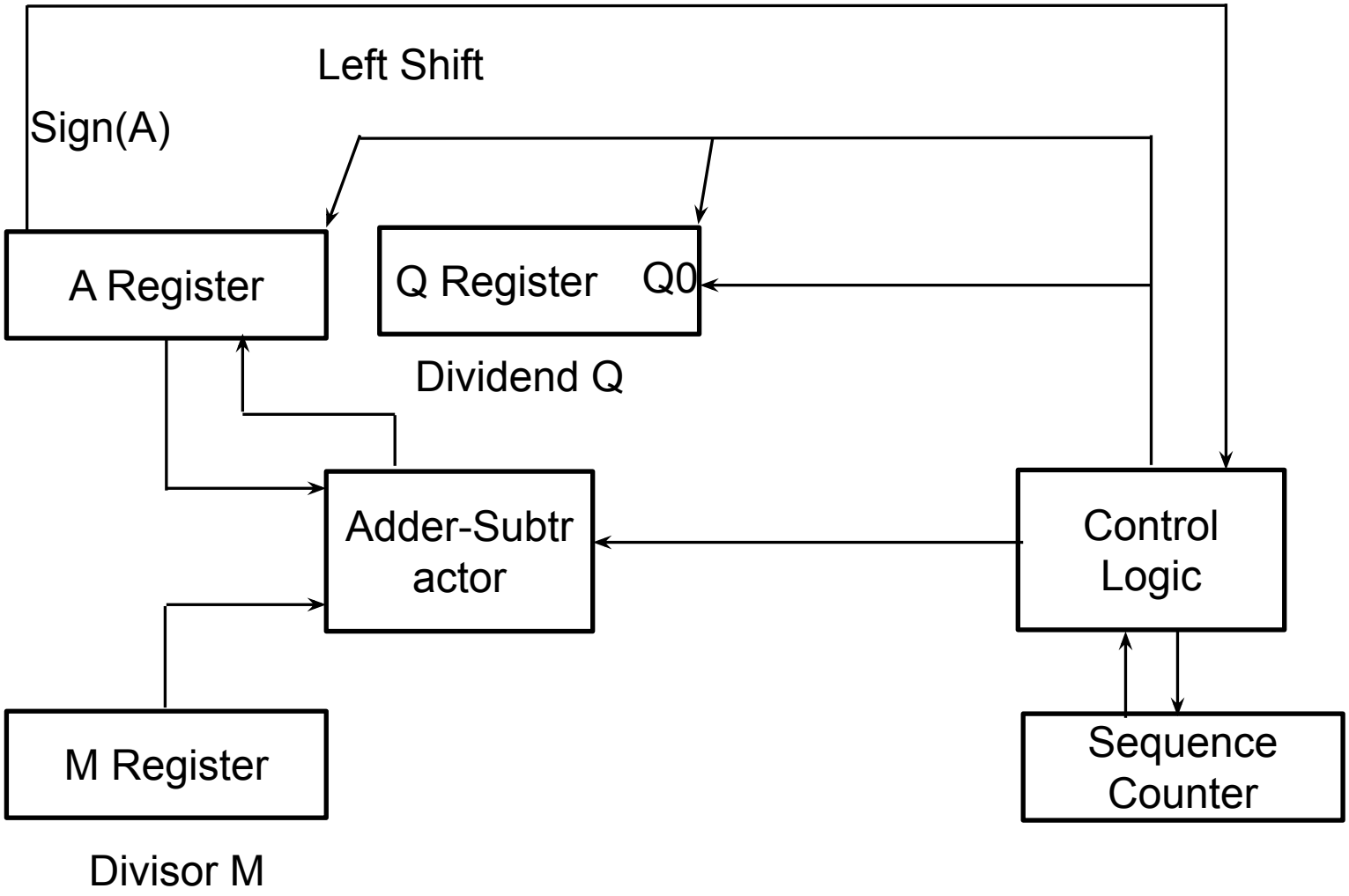
Restoring Division Algorithm

1. Initialize A=0,M=Divisor and Q=Dividend. n is taken as a number of bits in Q;
2. Repeat step 3 to 5 n times
3. Shift A and Q left one bit position.
4. Subtract M from A, and place the answer back in A.
5. If the sign of A is 1, set Q[0] to 0 and add M back to A (that is, restore A); otherwise, set Q[0] to 1.
6. Quotient is collected from Q and remainder is collected from A.

Non Restoring Division Algorithm

1. Initialize A=0,M=Divisor and Q=Dividend. n is taken as a number of bits in Q;
2. Repeat step 3 to 4 n times
3. If the sign of A is 0, shift A and Q left one bit position and subtract M from A; otherwise, shift A and Q left and add M to A.
4. Now, if the sign of A is 0, set Q[0] to 1; otherwise, set Q[0] to 0.
5. If the sign of A is 1, add M to A.
6. Quotient is collected from Q and remainder is collected from A.

Division Hardware



Thank You